AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A computer-implemented method for multi-objective investment portfolio analysis and decision-making using visualization techniques the method sequentially comprising:

generating a non-dominated solution set comprising an efficient frontier in an original portfolio performance space having at least three-dimensions of risk and return measures, each point in the original portfolio performance space representing a non-dominated solution, the non-dominated solution set generated using one of an evolutionary algorithm and optimization processing ~~by using~~executed by a processor of a computing device;

imposing a sequence of user-specified constraints in ~~at least one of~~either the original portfolio performance space ~~and~~ or a portfolio configuration space containing portfolio allocations to reduce the non-dominated solutions in the non-dominated solution set to an initial solution subset, each solution in the initial solution subset representing a portfolio allocation; ~~and~~

executing a sequence of Pareto filters in a user-specified order on regions of a lower dimensional portfolio performance space containing a lower dimensional projection of one of the non-dominated solution set and the initial solution subset ~~having fewer dimensions than the original portfolio performance space~~ to produce a resulting solution subset having a fewer number of points than the initial solution subset; and

applying preferences on the resulting solution subset to produce a final selection, the ~~resulting solution subset~~final selection being used in investment ~~decisioning~~decisions.

2-4. (Canceled)

5. (Previously Presented) The method of claim 1, wherein the user-specified constraints is defined by limits on performance metrics.

6. (Original) The method of claim 5, wherein the performance metrics include risk and return.

7. (Previously Presented) The method of claim 5, wherein the user-specified constraints include imposing a lower limit on return and an upper limit on risk.

8. (Previously Presented) The method of claim 5, wherein the user-specified constraints include imposing a first range on return and a second range on risk.

9-13 (Canceled)

14. (Currently Amended) The method of claim [[13]]1, wherein the preferences are represented by relative weights on performance metrics.

15. (Currently Amended) The method of claim[[13]]1, wherein the preferences are represented by relative weights on performance configuration metrics.

16. (Canceled)

17. (Previously Presented) The method of claim 1, wherein after the imposing step, the method further includes:

applying portfolio configuration metrics based on a plurality of asset allocations in a portfolio; and

comparing portfolio configuration metrics between a plurality of portfolios.

18-19. (Canceled)

20. (Previously Presented) The method of claim 17, wherein the comparing step includes determining a required transaction to transform the plurality of asset allocations in a currently existing portfolio to a plurality of asset allocations in each of the portfolios in the resulting solution subset.

21. (Original) The method of claim 1, wherein the user-specified constraints are one of independent and dependent constraints.

22-25. (Canceled)

26. (Currently Amended) A system for multi-objective investment portfolio analysis and decision-making using visualization techniques, the system comprising:

a solution set generation portion utilizing a processor of a computing device ~~that generates~~to generate a non-dominated solution set comprising an efficient frontier in an original portfolio performance space having at least three-dimensions of risk and return measures, each point in the original portfolio performance space representing a non-dominated solution, the non-dominated solution set generated using one of an evolutionary algorithm and optimization processing;

an initial constraint portion utilizing the processor of the computing device ~~that imposes~~to impose a sequence of user-specified constraints in ~~at least one of~~either the original portfolio performance space ~~and~~ or a portfolio configuration space containing portfolio allocations to reduce the non-dominated solutions in the non-dominated solution set to an initial solution subset, each solution in the initial solution subset representing a portfolio allocation; and

a trade-off processing portion utilizing the processor of the computing device ~~that executes~~to execute a sequence of Pareto filters in a user-specified order on regions of a lower dimensional portfolio performance space containing a lower dimensional projection of one of the non-dominated solution set and the initial solution subset ~~having fewer dimensions than the original portfolio performance space~~ to

produce a resulting solution subset having a fewer number of points than the initial solution subset, the trade-off processing portion applying additional user-specific constraints to the resulting solution subset to produce a final selection, the ~~resulting solution subset~~final selection being used in investment ~~decisioning~~decisions.

27- 32. (Canceled)

33. (Currently Amended) The system of claim [[30]]26, wherein the additional user-specific constraints are based on structure metrics.

34. (Currently Amended) A computer readable medium for multi-objective investment portfolio analysis and decision-making using visualization techniques, the computer readable medium comprising:

a first portion that generates a non-dominated solution set comprising an efficient frontier in an original portfolio performance space having at least three-dimensions of risk and return measures, each point in the original portfolio performance space representing a non-dominated solution, the non-dominated solution set generated using one of an evolutionary algorithm and optimization processing;

a second portion that imposes a sequence of user-specified constraints in ~~at least one of~~either the original portfolio performance space ~~and~~ or a portfolio configuration space containing portfolio allocations to reduce the non-dominated solutions in the non-dominated solution set to an initial solution subset, each solution in the initial solution subset representing a portfolio allocation;

a third portion that executes a series of Pareto filters in a user-specified order on regions of a lower dimensional portfolio performance space containing a lower dimensional projection of one of the non-dominated solution set and the initial solution subset ~~having fewer dimensions than the original portfolio performance space~~ to produce a resulting solution subset having a fewer number of points than the initial solution subset; and

a fourth portion, and after the resulting solution subset has been produced by the third portion, the fourth portion applies additional user-specified

constraints to the resulting solution subset to produce a final selection, the final selection being used in investment ~~decisioning~~decisions.

35. (Currently Amended) A computer-implemented method for multi-objective investment portfolio analysis and decision-making using visualization techniques, the method sequentially comprising:

generating a non-dominated solution set comprising an efficient frontier in an original portfolio performance space having at least three-dimensions of risk and return measures, each point in the original portfolio performance space representing a non-dominated solution, the non-dominated solution set generated using ~~one of~~either an evolutionary algorithm ~~and~~ or optimization processing ~~by using~~executed by a processor of a computing device;

imposing a sequence of user-specified constraints in at least one of the original portfolio performance space and a portfolio configuration space containing portfolio allocations to reduce the non-dominated solutions in the non-dominated solution set to an initial solution subset, each solution in the initial solution subset representing a portfolio allocation; and

executing a series of Pareto filters in a user-specific order on regions of a lower dimensional portfolio performance space containing a lower dimensional projection of one of the non-dominated solution set and the initial solution subset ~~having fewer dimensions than the original portfolio performance space~~ to produce a resulting solution subset having a fewer number of points than the initial solution subset, the resulting solution subset being used in investment ~~decisioning~~decisions; and

wherein the executing the sequence of Pareto filters is performed in performance configuration space; and

wherein after executing the sequence of Pareto filters in performance configuration space, the method further includes the steps of:

applying portfolio configuration metrics based on a plurality of asset allocations in a portfolio; and

comparing portfolio configuration metrics between a plurality of portfolios.